

Hydraulic compression force transducer

Heavy-duty version up to 400 kN

Model F1125

WIKA data sheet FO 52.11

Applications

- Equipment manufacturing
- Geotechnology and special civil engineering
- Construction of jigs and fixtures
- Special-purpose machine building
- Measuring and control systems

Special features

- Measuring ranges 0 ... 4 kN to 0 ... 400 kN
- Relative linearity error $\pm 1.0 \dots 1.6 \%$ with analogue pressure gauge, $\pm 0.5 \%$ with digital pressure gauge or pressure sensor¹⁾
- Piston stroke $\leq 0.8 \text{ mm}$
- Operates without supply voltage
- 5-year leak-tightness warranty²⁾



Hydraulic compression force transducer, model F1125

Description

The heavy-duty hydraulic compression force transducers are available up to a rated force of 400 kN. Through their robust design, they are particularly suited to harsh environmental conditions such as in geotechnology and specialist foundation engineering.

The hydraulic force measurement is a simple way to capture and display the forces occurring in various applications. Hydraulic force measurement makes use of a piston-case combination with different seals as a sensor unit. The force acting is the product of the area and the pressure. For the display of the pressure, either pressure gauges, pressure sensors or pressure measuring instruments with contact devices can be used. The scale of the display instrument can be defined in various units (e.g. N, kN, kg, t).

Leak-tightness warranty

The warranty on leak tightness of the hydraulic force measuring unit was extended to 5 years²⁾. A force transducer that starts to leak within this period will be repaired free of charge.

1) For rated forces below 500 N, the relative linearity error is $\pm 1.6 \% F_{nom}$ for all connected measuring instruments.

2) Use of the force measuring unit as intended is a prerequisite for the extended 5-year warranty.

Specifications per VDI/VDE/DK 2638

Model F1125	
Rated force F_{nom}	0 ... 4 kN to 0 ... 400 kN
Nominal size	NS 40
Display <input type="checkbox"/> Standard <input type="checkbox"/> Option	Pressure gauge 213.40 (NS 63) Digital pressure gauge DG-10 Pressure gauge PSG23.160 (NS 100), optionally with contacts Pressure sensor (on request)
Relative linearity error d_{lin} <input type="checkbox"/> Standard <input type="checkbox"/> Option	$\leq \pm 1.0 \% F_{nom}$ (analogue display) ¹⁾ $\leq \pm 0.5 \% F_{nom}$ (pressure sensor/digital pressure gauge) ¹⁾
Limit force F_L	100 % F_{nom}
Breaking force F_B	> 130 % F_{nom}
Rated displacement s_{nom}	< 0.8 mm
Rated temperature range $B_{T, nom}$	-25 ... +90 °C
Ingress protection (per EN/IEC 60529)	IP65
Case	Stainless steel
Piston	Stainless steel
Diaphragm	Plastic
Mounting type <input type="checkbox"/> Standard <input type="checkbox"/> Option	Adapter Capillary, measuring hose for "separation without any losses"
Fill fluid	Glycerine 70 %, water 30 %
Assembly aid	Threaded holes on the bottom of the case
Options	Spacer disc
Weight in kg	approx. 12

1) For rated forces below 500 N, the relative linearity error is $\pm 1.6 \% F_{nom}$ for all connected measuring instruments.

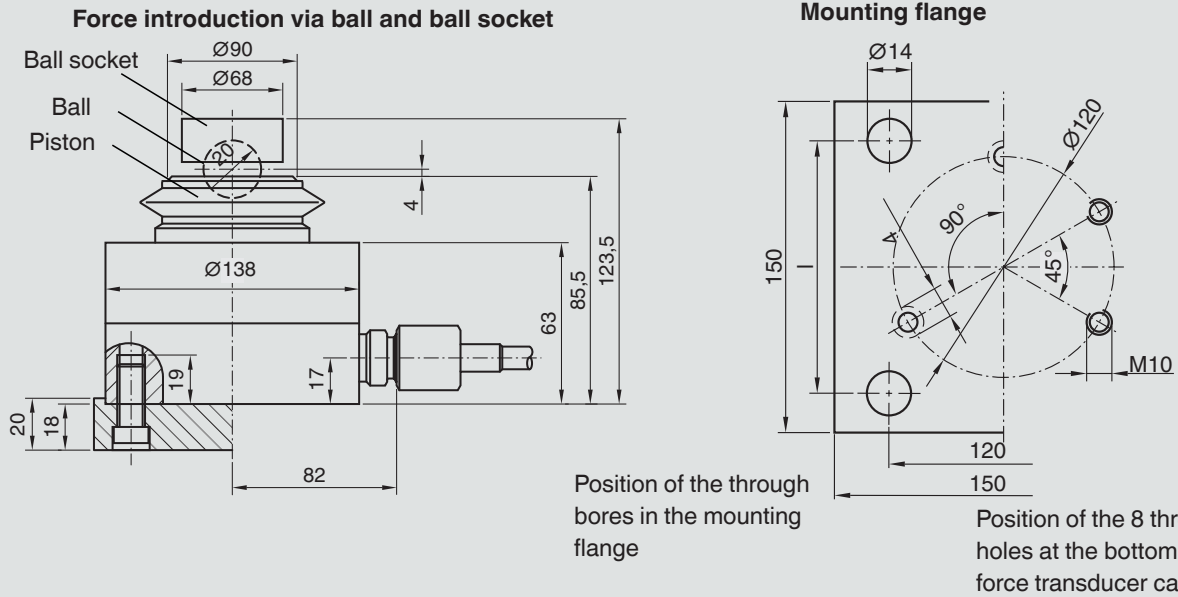
Version		Display		Options	
Rated force	System pressure	213.40	DG-10	Measuring hose DN 2 (max. L)	Capillary (max. L)
kN	bar			m	
4	10	■	-	1.0	2.0
6	16	■	-	1.0	2.0
8	20	-	■ ¹⁾	1.5	2.0
10	25	■	-	1.5	2.0
16	40	■	-	1.5	2.0
20	50	-	■	2.0	2.0
25	60	■	-	2.0	2.0
40	100	■	■	2.0	2.0
60	160	■	■	2.0	4.0
100	250	■	■	3.2	4.0
160	400	■	■	3.2	6.0
250	600	■	■	3.2	6.0
400	1,000	■	-	-	6.0

Other rated loads and versions on request

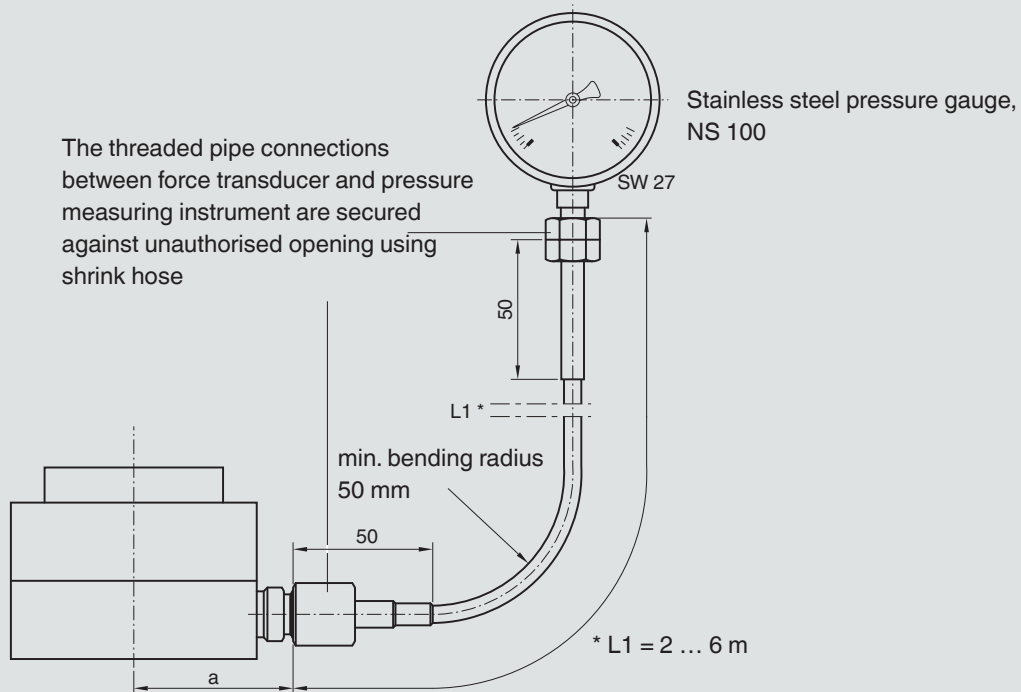
■ = possible selection

1) Relative linearity error < $\pm 1.0 \% F_{nom}$

Dimensions in mm



Flexible pipeline



The sealed threaded connections of the hydraulic force transducer must not be loosened!
Non-compliant handling invalidates the warranty and a measuring function is no longer assured.

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